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ABSTRACT

Recent research in the area of masculine and feminine personality characteristics has led to conflicting results about the adaptive value of androgyny. To investigate the relationship between sex-typing and self-reported job satisfaction and performance in the male-dominated field of engineering, 346 male and 346 female engineers completed the instrumental and expressive scales of the Personal Attributes Questionnaire as well as an extensive survey and interest inventory. The androgynous and masculine sex-typed groups reported significantly higher levels of job performance, job satisfaction and self concept of abilities than the feminine sex-typed and undifferentiated groups, regardless of sex. The androgynous group was not significantly different from the masculine group on job performance or self concept. Females tended to have more favorable attitudes towards women in engineering, regardless of sex-type. Results indicate that the presence of instrumental traits is related to higher levels of self-reported job performance and satisfaction in engineering. (Author/JAC)

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Androgyny and Job Performance in a
Male-Dominated Field

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ABSTRACT

The relationships between androgyny and self-report measures of job performance, satisfaction, self-concept of abilities, and attitudes towards women in the engineering work force were examined for a sample of male and female engineers. The androgynous and masculine sex-typed groups reported significantly higher levels of job performance, job satisfaction and self-concept of abilities than did the feminine sex-typed and undifferentiated groups regardless of sex. The androgynous group was not significantly different from the masculine sex-typed group on any of the measures of job performance or self-concept of abilities. For the measure of attitudes towards women in the engineering work force, females tended to be more favorable than were males regardless of their sex-typed grouping. Analysis of self-report measures did not support the hypothesis that androgynous persons perform better in a male-dominated field than do masculine sex-typed persons. It appears that the presence of instrumental traits is related to higher levels of self-reported job performance and satisfaction in engineering.

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Recent research in the area of masculine and feminine personality characteristics has led to conflicting results concerning the adaptive value of androgyny. Bem and her colleagues (Bem 1975; Bem & Lenney, 1976; Bem, Martyna & Watson, 1976) have argued that androgyny facilitates adjustment in terms of behavioral flexibility. Androgynous individuals can more easily adapt to cross-sex typed activities in the laboratory setting than sex-typed individuals. In addition, androgynous individuals have been found to have higher levels of self-esteem (Spence, Helmreich, & Stapp, 1975). Majors, Carnevale, and Deaux (1981) have also reported that androgynous individuals are better liked and are perceived to be better adjusted than sex-typed individuals. Heilbrun (1981) has found that androgynous college women are more satisfied with their performance and are rated as more competent than their sex-typed female peers. However, this relationship was not found for male college students. These results would lead one to hypothesize that in a male-dominated field such as engineering, androgynous individuals should evidence greater satisfaction and higher levels of performance than sex-typed individuals at least where women are concerned. However, other research suggests that the instrumental characteristics endorsed by individuals classified as masculine sex-typed or androgynous may be more predictive of performance in a male-dominated field (see Spence and Helmreich, 1979; Lubinski, Tellegen & Butcher, 1981; Motowidlo, 1982).

The present research was conducted to investigate the relationship between sex-typing and self-reported job satisfaction and performance in the male-dominated field of engineering. In particular, we were interested in determining whether or not androgyny would lead to greater levels of satisfaction and performance for males as well as females, or if simply the presence of instrumental traits would be associated with greater levels of satisfaction and performance.

Method

Subjects

Subjects in this study represent a subsample of the respondents to a national survey of career patterns in engineering. Subjects in the national survey were selected from nine different engineering societies. The subsample of 346 men and 346 women used in this study were matched by year of B.S. graduation and society membership. In addition, the subsample was limited to respondents who received their B.S. degree since 1975.

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Procedure

Respondents completed the instrumental and expressive scales of the Personal Attributes Questionnaire (Spence & Helmreich, 1978) as well as an extensive survey and interest inventory. Instrumental and expressive scores were formed by summing the designated item responses for respondents with complete data. Table 1 contains the means and medians for the instrumental and expressive scales. Men scored significantly higher than did women ($t(707)=2.40$, $p<.02$) on the instrumental scale but the difference between the groups was not significant on the expressive scale. Consistent with the results of Spence and Helmreich (1978), there was a low positive correlation between the instrumental and expressive scales ($r=.055$, $p>.05$).

INSERT TABLE 1 ABOUT HERE

Total group medians were used to divide the group into four sex-typed groups according to the following scheme:

<u>Classification</u>	<u>Instrumental</u>	<u>Expressive</u>
Androgynous	Above Median	Above Median
Masculine Typed	Above Median	Below Median
Feminine Typed	Below Median	Above Median
Undifferentiated	Below Median	Below Median

Table 2 presents the percentage of men and women engineers classified into these four sex-typed groups. There is a significant difference between the percentage of men and women classified into each group ($\chi^2(3)=8.38$, $p<.05$). Women engineers were more likely to be classified as feminine sex-typed than were men (30% vs. 22%), but there was little difference between the percentage of women and men classified as masculine sex-typed (24% vs. 22%).

INSERT TABLE 2 ABOUT HERE

For comparison purposes, the engineers were also classified into the four sex-typed groups using the medians reported by Spence and Helmreich (1978) for a college sample. Table 2 displays the percentage of engineers and college students classified in this manner. The college median on the instrumental scale (21) was lower than the engineers' median while the college median on the expressive scale (23) was higher than the engineers' median. Using the college medians, the engineers are more likely to be classified as masculine sex-typed as compared to the classification using their own medians. Using college medians, women engineers were less likely to be classified as feminine sex-typed and undifferentiated and were more likely to be classified as masculine typed and

androgynous than were the college women. The male engineers tended to be classified similar to Spence and Helmreich's (1978) male college students.

The engineers' responses to various items on the survey dealing with job performance, job satisfaction, self-concept of abilities and attitudes towards women in the engineering work force were analyzed using a procedure recommended by Taylor and Hall (in press). Taylor and Hall suggest the use of factorial analysis of variance to test the main effects of the instrumental and expressive scales as well as the interaction between the two scales. Taylor and Hall explain that the presence of a main effect for both the instrumental and expressive scales would suggest that androgyny (the presence of both instrumental and expressive traits) is associated with higher scores on the dependent measure (assuming the significant main effects reflect a positive relationship with the dependent variable). If only one scale is consistently found to be related to the dependent variable, the concept of androgyny may not be relevant to the measures being examined. In accordance with this recommendation, our analyses involved 2 X 2 X 2 analyses of variance and covariance using the following three factors: Instrumental scale (above and below the engineers' median), Expressive scale (above and below the engineers' median), and Sex (male and female).

Results

Job Performance

Several items on the survey were designed to assess the individuals job performance. The items included level of supervisory responsibility, level of technical responsibility, and annual salary. Supervisory responsibility was recorded on a nine-point scale ranging from no supervisory responsibility to holding the highest administrative post and technical responsibility was recorded on an eight-point scale ranging from simple procedures requiring no previous knowledge to pioneering work requiring outstanding knowledge of advanced techniques. In addition, respondents were presented with a list of 17 professional activities and were asked to check those they had engaged in during the past year. The list included items such as completing a graduate course in engineering or science, reading a new book about engineering or science or presenting a paper at a professional meeting.

Since there were significant differences among the groups in terms of the average number of years of professional experience in engineering, analysis of covariance was used. A 2 X 2 X 2 analysis of covariance was performed on each dependent variable. Table 3 contains the adjusted group means for men and women classified into the four sex-typed groups.

INSERT TABLE 3 ABOUT HERE

A significant main effect for the instrumental scale was found in the analysis of supervisory responsibility ($F[1,622]=9.69$, $p<.002$, $w^2=.01$), technical responsibility ($F[1,619]=15.43$, $p<.001$, $w^2=.02$), annual salary

($F[1,578]=5.87$, $p<.02$, $w^2=.01$), and professional activities ($F[1,636]=13.75$, $p<.001$, $w^2=.02$). For each dependent variable, the adjusted group means for the androgynous and masculine typed group were significantly higher than were the adjusted group means for the feminine typed and undifferentiated groups. The only significant effect for the expressive scale occurred when salary was examined ($F[1,578]=6.62$, $p<.01$, $w^2=.01$) with those high on the expressive scale (androgynous and feminine typed groups) reporting significantly lower salaries than did those low on the expressive scale (masculine typed and undifferentiated groups). Finally, men tended to reported higher levels of supervisory responsibility than did women ($F[1,622]=16.27$, $p<.001$, $w^2=.02$).

A significant three-way interaction was found for the professional activities variable ($F[1,636]=4.50$, $p<.04$, $w^2=.01$). Among men, the androgynous and masculine typed groups had higher means than did the feminine typed and undifferentiated groups. However, only the comparisons between the feminine typed group and the masculine typed and androgynous groups were significant ($p<.05$). Among the women, the undifferentiated group had the lowest mean which was significantly different from the masculine typed group which had the highest mean. The means for the feminine typed and androgynous groups fell inbetween these extremes and were not significantly different from either extreme. No other significant main effects or interaction effects were found on the job performance variables.

The results indicated that the instrumental scale is consistently related to the self-report measures of job performance examined, while the expressive scale is not. However, it is important to note that the magnitude of the observed effects is quite small.

Job Satisfaction

Job satisfaction was examined in two different ways. First of all, respondents made a global rating of their general level of satisfaction with their present job. This rating was made on a five-point scale ranging from "very dissatisfied" to "very satisfied". An analysis of covariance was performed on these ratings and the adjusted group means are displayed in Table 3. Years of professional engineering experience was used as a covariate since there is some evidence to suggest that people are generally less satisfied in their first few years of employment. The results indicated a significant effect for the instrumental scale ($F[1,617]=8.13$, $p<.005$, $w^2=.01$). The androgynous and masculine typed groups reported higher levels of satisfaction than did the feminine typed and undifferentiated groups. No other significant effects were found for general job satisfaction ratings.

Satisfaction was also examined using a procedure developed by LeBold and Woods (1970). Respondents were given a list of 36 statements describing positive aspects of a job. They rated each item in terms of how important it was to them personally and how characteristic it was of their present job. A factor analysis of the importance ratings was conducted using a randomly selected sample of respondents from the entire group of engineers who completed the survey. A principal axis factor analysis was conducted with squared multiple Rs in the diagonals followed by a varimax rotation. This analysis suggested three major factors. The first factor involved 13 items dealing primarily with intrinsic aspects of the job (e.g., "opportunity to use my skills and abilities in

challenging work," "opportunity to be original and creative"). The second factor consisted of 12 items concerning career advancement opportunities (e.g. "a chance to exercise leadership", "adequate preparation for top level careers"). Finally, the third factor involved 11 items which focussed on the working conditions (e.g. "pleasant people to work with", "flexible working hours"). Scale scores were formed by averaging the respondents ratings of each of the items on a given scale. Only respondents who completed all of the items on a given scale were included in the analysis. This procedure resulted in six scale scores, three for importance ratings and three for characteristic ratings. Cronbach's alpha was computed for each of the scales. The alpha values ranged from .75 to .89. According to LeBold and Wood (1970), importance ratings reflect how much the individual values given job factors. We have typically found that importance ratings of the items in this list are quite high (LeBold & Wood, 1970; Jagacinski & LeBold, 1981). On the other hand, characteristic ratings are more reflective of satisfaction with the job.

2 X 2 X 2 analyses of variance were conducted on the importance and characteristic ratings. Table 4 displays the group means for the importance and characteristic ratings of each factor. All ratings were made on a four-point scale and it is clear that the importance ratings are higher than the characteristic ratings. The analysis of variance of the importance ratings resulted in a significant main effect for the instrumental scale on the intrinsic factors ($F[1,659]=30.88$, $p<.001$, $w^2=.04$) and career advancement opportunities ($F[1,663]=54.81$, $p<.001$, $w^2=.07$). A significant main effect for the expressive scale was found for all three factors: intrinsic factors ($F[1,659]=21.88$, $p<.001$, $w^2=.03$), career advancement opportunities ($F[1,663]=13.03$, $p<.001$, $w^2=.02$), and pleasant working conditions ($F[1,651]=40.81$, $p<.001$, $w^2=.06$). There were no significant effects for sex or any interaction effects. The presence of main effects for both the instrumental and the expressive scales for the intrinsic job factors and career advancement opportunities implies that the androgynous engineers value these factors more than the other sex-typed groups do. In fact, the androgynous group does have the highest group mean on these two variables followed by the masculine typed, feminine typed and undifferentiated groups in that order. The androgynous group rated intrinsic job factors and career advancement opportunities as significantly more important than did the masculine typed group. On the other hand, pleasant working conditions are valued more highly by individuals who rated themselves highly on the expressive scale regardless of their score on the instrumental scale.

INSERT TABLE 4 ABOUT HERE

Table 4 also contains the respondents' mean ratings of how characteristic each factor is of their present job. LeBold and Wood (1970) have found these ratings to be highly related to other measures of job satisfaction. The analysis of intrinsic job factors resulted in significant main effects for the instrumental scale ($F[1,644]=12.65$, $p<.001$, $w^2=.02$) and for sex ($F[1,644]=6.10$, $p<.02$, $w^2=.01$). Men in our sample found their jobs to be characterized by intrinsic job factors to a greater extent than did women. Androgynous and

masculine typed engineers also had higher ratings than did feminine typed and undifferentiated engineers.

A more complex relationship was found for the career advancement opportunities. Significant main effects were found for the instrumental scale ($F[1,642]=16.71$, $p<.001$, $w^2=.02$), the expressive scale ($F[1,642]=4.78$, $p<.03$, $w^2=.01$) and sex ($F[1,642]=5.29$, $p<.03$, $w^2=.01$). However, a significant interaction between the expressive scale and sex was also found ($F[1,642]=6.75$, $p<.01$, $w^2=.01$). For men, there was no appreciable difference between the ratings of those high and low on the expressive scale. However, for women those high on the expressive scale found their job characterized by career advancement opportunities to a greater extent than did those low on the expressive scale. The main effect for the instrumental scale was characterized by those high on the instrumental scale (androgynous, masculine typed) reporting higher ratings than those low on the scale (feminine typed, undifferentiated).

Finally, the analysis of pleasant working conditions revealed only a significant main effect for the expressive scale ($F[1,622]=7.80$, $p<.005$, $w^2=.01$) with those high on the scale rating their jobs as more characterized by pleasant working conditions than did those low on the scale.

Although many significant effects were found for the importance and characteristic ratings, only a small proportion of the variance was accounted for in each case. In terms of the characteristic ratings, the androgynous group was not significantly different from the masculine typed group.

Self-Concept of Abilities

Survey respondents were asked to rate themselves on various abilities relative to the average adult who has attended college. These ratings were made on a five-point scale ranging from "lowest 10 percent" to "highest 10 percent". Most of the engineering respondents rated themselves as above average on most of the items. Several scales were formed by averaging responses to related items: verbal abilities (e.g. writing ability, public speaking ability), academic skills (e.g. problem solving ability, mathematical ability), self-confidence (intellectual self-confidence, leadership ability) and mechanical/visual skills. Cronbach's alpha for these scales ranged from .73 to .82. One might anticipate that items of this type should be related to self-esteem and hence should result in the highest ratings by androgynous persons.

Table 5 presents the group means on each of the variables. For each of the self-concept scales, a significant main effect for the instrumental scale was found: verbal abilities ($F[1,689]=68.15$, $p<.001$, $w^2=.08$) academic skills ($F[1,685]=78.18$, $p<.001$, $w^2=.10$), self-confidence ($F[1,686]=292.84$, $p<.001$, $w^2=.29$), and mechanical/visual skills ($F[1,687]=55.52$, $p<.001$, $w^2=.07$). In each case, the androgynous and masculine typed groups rated themselves higher than did the feminine typed and undifferentiated groups. In addition, men rated themselves higher than women did in terms of academic skills ($F[1,685]=5.43$, $p<.02$, $w^2=.01$) and mechanical/visual skills ($F[1,687]=36.42$, $p<.001$, $w^2=.05$). For verbal abilities, women rated themselves higher than did men ($F[1,689]=6.35$, $p<.02$, $w^2=.01$) and there were two significant interactions for this variable. An interaction between the instrumental and expressive scales ($F[1,689]=16.38$, $p<.001$, $w^2=.02$) revealed that among those low on the instrumental scale there

was a significant difference in the ratings of those high and low on the expressive scale with the high expressives rating themselves higher. Respondents who were high on the instrumental scale rated their verbal abilities high regardless of their score on the expressive scale. A similar interaction pattern was found between the expressive scale and sex ($F[1,689]=4.99, p<.03, w^2=.01$). Men who were high on the expressive scale rated their verbal abilities higher than men low on the expressive scale, while women rated their verbal abilities highly regardless of their score on the expressive scale.

INSERT TABLE 5 ABOUT HERE

Several complex interactions for the self-confidence scale were also found. There was a significant main effect for the expressive scale on self confidence ratings ($F[1,688]=4.38, p<.04, w^2=.01$), with those high on the scale (feminine typed and androgynous groups) expressing greater self-confidence. However, the interpretation of this main effect must be qualified due to the presence of several interactions. There was a significant interaction between the expressive and instrumental scales ($F[1,688]=7.12, p<.008, w^2=.01$) and a significant three-way interaction ($F[1,688]=6.75, p<.01, w^2=.01$). Analysis of the differences among the interaction patterns revealed that women low on the instrumental scale rated their self-confidence higher when they were high on the expressive scale as compared to being low on the expressive scale. Differences between the self-confidence ratings of those high and low on the expressive scale for all other sex by instrumental scale groupings were not significantly different.

As in the previous analyses, the instrumental scale had a much stronger influence on these self-report ratings than did the expressive scale. Differences between the ratings of androgynous and masculine typed engineers (men and women combined) were not statistically significant. In addition, an examination of the pattern of means within sex shows that among women engineers the mean for the masculine typed group is higher than the mean for the androgynous group on three of the four measures examined. This pattern is contrary to the pattern reported by Spence and Helmreich (1978) when group means on the Texas Social Behavior Inventory were examined. Spence and Helmreich reported that the androgynous group had a higher mean score than the masculine typed group. The discrepancy may be partially a function of the fact that the items used in this study deal primarily with performance abilities (e.g. math, leadership, public speaking) and not with abilities to interact effectively with others.

Attitudes Towards Women

Survey respondents were given a series of statements concerning attitudes towards women in the engineering work force. Respondents indicated their extent of agreement with the statements on a four-point scale. Some example items were: "Women are competitive enough to be successful in engineering", "The possibility of pregnancy does not make women less desirable as employees than men." Responses to the seven attitude items were averaged for each respondent and analysis of variance was conducted on these derived scores. The only

significant effect was for sex ($F[1,609]=222.55$, $p<.001$, $w^2=.27$) with a significant proportion of the variance accounted for. Women expressed more favorable attitudes than did men regardless of their sex-type classification. Table 6 illustrates the group mean ratings.

INSERT TABLE 6 ABOUT HERE

Spence and Helmreich (1978) report generally low correlations between the instrumental and expressive scales and their own attitude towards women scale. However, when they compared the attitudes of the four sex-typed groups within sex, they found more favorable attitudes among masculine typed females and feminine typed males than the other groups. This pattern was not found in the present study.

Discussion

Table 7 summarizes the significant main effects observed in all the analyses conducted. The results of this study support the hypothesis that self-reported job performance, job satisfaction, and self-concept of abilities are significantly related to the instrumental scale of the Personal Attributes Questionnaire (PAQ). Relationships between these measures and the expressive scale were much weaker and often qualified by interaction effects. There was little evidence to support the hypothesis that androgynous men or women would report greater performance and satisfaction than their masculine typed colleagues. Instead, both the androgynous and masculine typed groups consistently reported greater satisfaction, performance, and self-concept of abilities scores, than the feminine-typed and undifferentiated groups. This result is consistent with recently reported findings concerning behavior in work settings (Motowidlo, 1982).

INSERT TABLE 7 ABOUT HERE

A possible limitation of this study concerns the exclusive use of self report data. The relationships found for the job performance variables, need to be examined with more objective measures. It is also important to note that the magnitude of the effects for the instrumental scale on job performance and job satisfaction measures were quite small. Future research should be directed towards examining other personality and situational variables which may explain differences in job performance and satisfaction among men and women in male-dominated professions.

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TABLE 1

Group Means and Medians for the
Scales from the Personal Attributes
Questionnaire

	Instrumental	Expressive
<u>Males</u>		
Mean	23.34	22.13
Median	23.43	22.01
N	354	351
<u>Females</u>		
Mean	22.61	22.45
Median	22.74	22.24
N	355	355
<u>Total</u>		
Mean	22.98	22.29
Median	23.02	22.11
N	709	706

TABLE 2

Percentage of Males and Females
Classified into Each Sex-Typed Group

Classification by means of:

Classification Group	Engr. Medians Engineers		College Medians* Engineers		College Medians* Students	
	Males	Females	Males	Females	Males	Females
Androgynous	35	28	35	33	32	27
Masculine Typed	22	24	40	37	34	14
Feminine Typed	22	30	8	14	8	32
Undifferentiated	21	18	17	16	25	28
(No. of Cases)	(346)	(353)	(346)	(353)	(715)	(715)

*Spence and Helmreich (1978)

TABLE 3

Adjusted Group Means for Self-Report Measures of
Job Performance and General Job Satisfaction

Group	Level of Supervisory Responsibility		Level of Technical Responsibility	
	Males	Females	Males	Females
Androgynous	2.88	2.39	4.59	4.69
Masculine Type	2.91	2.10	4.79	4.79
Feminine Type	2.40	1.88	4.57	4.13
Undifferentiated	2.35	1.78	4.35	4.17

	Annual Salary in Thousands		Number of Professional Activities Engaged In	
	Males	Females	Males	Females
Androgynous	26.0	24.8	7.03	6.57
Masculine Type	27.6	25.8	7.16	7.21
Feminine Type	24.0	24.1	6.00	6.47
Undifferentiated	25.8	24.6	6.57	6.00

Job Satisfaction		
	Males	Females
Androgynous	4.03	4.05
Masculine Typed	4.06	3.96
Feminine Typed	3.91	3.84
Undifferentiated	3.99	3.48

TABLE 4
Factors Related to Job Satisfaction

	Mean Ratings of Personal Importance		Mean Ratings of How Characteristic of Present Job:	
Intrinsic Job Factors				
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Androgynous	3.51	3.56	2.98	2.97
Masculine Typed	3.38	3.37	3.05	2.86
Feminine Typed	3.38	3.34	2.90	2.82
Undifferentiated	3.26	3.27	2.85	2.65
Career Advancement Opportunities				
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Androgynous	3.38	3.44	2.95	2.99
Masculine Typed	3.32	3.34	3.02	2.84
Feminine Typed	3.23	3.20	2.88	2.82
Undifferentiated	3.05	3.10	2.82	2.57
Pleasant Working Conditions				
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Androgynous	3.40	3.52	3.04	3.07
Masculine Typed	3.24	3.24	3.03	2.95
Feminine Typed	3.44	3.45	3.08	2.98
Undifferentiated	3.27	3.33	2.94	2.83

TABLE 5

Group Means for Self-Concept
of Abilities

Group	Verbal Abilities		Academic Skills	
	Males	Females	Males	Females
Androgynous	3.70	3.64	4.11	4.02
Masculine Typed	3.62	3.90	4.07	4.06
Feminine Typed	3.41	3.51	3.83	3.76
Undifferentiated	3.09	3.24	3.80	3.65

	Self-Confidence		Mechanical/Visual Skills	
	Males	Females	Males	Females
Androgynous	4.18	4.01	4.04	3.82
Masculine Typed	4.04	4.18	4.09	3.80
Feminine Typed	3.51	3.59	3.69	3.44
Undifferentiated	3.36	3.38	3.81	3.42

TABLE 6

Group Means
Attitude Towards Women in the
Engineering Work Force

Group	Males	Females
Androgynous	2.86	3.50
Masculine Typed	2.98	3.47
Feminine Typed	2.87	3.55
Undifferentiated	2.96	3.52

TABLE 7
Summary of Significant Main Effects
from Analyses of Variance and Covariance

Dependent Variable	Instrumental (I)	Expressive (E)	Sex (S)
<u>Job Performance</u>			
Supervisory Responsibility	++		+++
Technical Responsibility	+++		
Professional Activities	+++		
Salary	+	-	
<u>Job Factors-Importance</u>			
Intrinsic Factors	+++	+++	
Career Advancement	+++	+++	
Working Conditions		+++	
<u>Job Factors-Characteristic</u>			
Intrinsic Factors	+++		+
Career Advancement	++	+*	+*
Working Conditions		++	
Job Satisfaction	++		
<u>Self-Concept of Abilities</u>			
Verbal Abilities	+++		-
Academic Skills	+++		+
Self Confidence	+++	+**	
Mechanical/Visual Skills	++		+++
Attitude Towards Women			---

p<.05 + or -

p<.01 ++ or --

p<.001 +++ or ---

+ High>low or Male>female

- Low>high or Female>male

*Significant ExS Interaction: Effect of expressive scale holds for females only.

**Significant IxE and IxExS Interactions: Effect for expressive scale holds only for females low on instrumental scale.